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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/965,408

09/25/2001

Eliezer Rosengaus

P632

3796

7590

12/08/2003

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EXAMINER

ROSENBERGER, RICHARD A

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 12/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/965,408

Applicant(s)

ROSENGAUS ET AL.

Examiner

Richard A Rosenberg

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 and 81-119 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-41 and 81-119 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-41 and 81-119 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miura et al (US 5,585,916) in view of Morioka et al (US 5,274,434), Eytan et al (US 6,496,256) and Antonelli et al (US 6,259,108).

Miura et al shows a system for inspecting a surface comprising an array of lenses (7a) placed proximate to the surface being inspected. Although the reference does not label the lenses as "rod lenses," it is at least obvious from the disclosure that they could be so labeled. The system is a "contact image sensor;" within the meaning used in the instant specification; the lenses of the array are proximate to the surface being inspected and force a one-to one magnification onto the system.

Miura et al does not specifically disclose measuring a wafer, showing measuring a mask. Morioka et al shows a similar system, also with an array of rod lenses proximate to a wafer being inspected in what is also a "contact image sensor" in the sense it is used in the instant specification; showing that it is known and would have been obvious to use such a system to measure a wafer.

Miura et al and Morioka et al show dark field measurements. It is known in the art that it is useful to include bright field measurements as well, and is known to do so by adding an appropriately placed second detections system; see figure 8 of Eytan et al. Given this knowledge in the art, it would have been obvious to add a second lens array and detector of the sort shown by Miura et al to measure the bright field to obtain the art-recognized benefits of such.

~~Recording the location, number, type, or other detectable characteristics of~~
detected defects would have been obvious. It would have been obvious to inspect either surface of the wafer. Using fibers to direct light is a well-known technique in the art and would have been obvious.

In a similar arrangement using a contact sensor with an array of rod lenses, Antonelli et al teaches that an appropriate light source is an array of light emitting diodes (column 5, line 4); the use of this light source other known solid state light sources in such a linear array in the inspection system such as shown by Miura et al would have been obvious.

Those in art could select an appropriate size for the lenses and other elements for the exact application at hand.

Antonelli et al shows that it is known in the art to integrate the rod lenses, detector array and at least a portion of the light source optics into a package.

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3. Claim 41 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 41, line 2, "the rod lens array" has no antecedent basis.

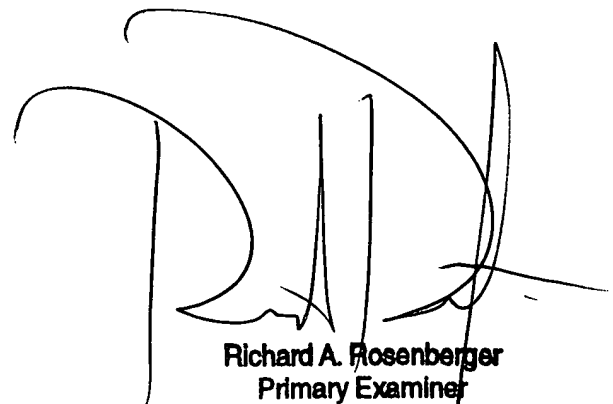
4. The following minor informalities are noted. In claims 88, line 7, there is a superfluous "y" after "specimen". In the specification, page 38, line 18, there is a reference to a patent "6,020,214 to Rosengaus et al"; the patent number and listed inventorship do not match up, at least one appears to be in error.

5. Papers related to this application may be submitted to Group 2800 by facsimile transmission. The faxing of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (15 November 1989). The fax number is (703) 872-9306

Any inquiry concerning this communication or earlier communications from the examiner should be directed to R. A. Rosenberger whose telephone number is (703) 308-4804.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

R. A. Rosenberger
1 December 2003



Richard A. Rosenberger
Primary Examiner

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